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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,839	10/29/2003	Makoto Matsushima	2271/71352	7847

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EXAMINER

PHU, PHUONG M

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/695,839

Applicant(s)

MATSUSHIMA, MAKOTO

Examiner

Phuong Phu

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 4, 7, 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Claims 2 and 9 recite the limitation “the PWM signal circuit consists of a plurality of circuit elements each of which outputs a digital signals”. The claims omit essential structural/functional/connectional interrelationships between elements of the “circuit elements”, which are not “first counter circuit” nor “second counter circuit”, previously recited, with the “first counter circuit” and the “second counter circuit” and with one another for making the claimed PWM signal generating circuit as a completely operational, connectional device.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5, 6 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kudo et al (6,658,583).

-Regarding to claim 1, Kudo et al discloses a PWM signal generating circuit (see figure 1B) comprising:

a first counter circuit (902, 904, 906) of periodically changing a PWM signal output (PWM SIGNAL) therefrom into an active state by changing the PWM signal output from L-level to H-level (see figures 1B, 1C, col. 1, lines 19-34); and

a second counter circuit (902, 900, 908) of changing the PWM signal, which has been changed into the active state by said first counter circuit, into an inactive state within each cycle by changing the PWM signal output from H-level to L-level, wherein said second counter circuit comprises element (900) to increase and decrease an active-to-inactive time period from a time when the PWM signal is changed into the active state to a time when the PWM signal is changed into the inactive state (see figures 1B, 1C, col. 1, lines 15-43).

-Regarding to claim 2, Kudo et al discloses that the PWM signal circuit consists of a plurality of circuit elements (900, 902, 904, 908, 906, 909), each of which outputs a digital signal (see figure 1B).

-Regarding to claim 3, Kudo et al discloses a first specifying circuit (900, 904) (see figure 1B) that specifies an upper limit value (910) (see figure 1C) and a lower limit value (see figure 1C), wherein said second counter circuit changes the active-to-inactive time period periodically within a range between the upper limit value and the lower limit value (see col. 1, lines 15-43).

-Regarding to claim 5, as similarly applied to claims 1-3, set forth above and herein incorporated, Kudo et al discloses a method (see figures 1B and 1C) of generating a PWM signal (PWM SIGNAL), comprising:

procedure (902, 904, 906) (see figure 1B) of periodically changing the PWM signal into an active state; and

procedure (902, 900, 908) (see figure 1B) of changing the PWM signal, which has been changed into the active state, into an inactive state within each cycle, while changing an active-to-inactive time period from a time when the PWM signal is changed into the active state to a time when the PWM signal is changed into the inactive state.

-Regarding to claim 6, Kudo et al discloses procedure (900, 904) (see figure 1B) of changing the active-to-inactive time period periodically within a range between an upper limit value (910) (see figure 1C) and a lower limit value (see figure 1C).

-Regarding to claim 8, similarly applied to claims 1-3, set forth above and herein incorporated, Kudo et al discloses a PWM signal generating circuit (see figure 1B) comprising:

first counter means (902, 904, 906) for periodically changing a PWM signal output (PWM SIGNAL) therefrom into an active state; and

second counter means (902, 900, 908) for changing the PWM signal, which has been changed into the active state by said first counter means, into an inactive state within each cycle, wherein said second counter means increases and decreases an active-to-inactive time period from a time when the PWM signal is changed into the active state to a time when the PWM signal is changed into the inactive state.

-Claim 9 is rejected with similar reasons set forth for claim 2.

-Claim 10 is rejected with similar reasons set forth for claim 3.

Allowable Subject Matter

6. Claims 4, 7 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHUONG PHU
BY EXAMINER

Phuong Phu
Primary Examiner
Art Unit 2611

Phuong Phu 12/29/06